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Note on the presence of *Symplocos cochinchinensis* var. *laurina* (Symplocaceae) in the state of Odisha, India

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ABSTRACT

Symplocos cochinchinensis var. *laurina*, (Symplocaceae) was collected from Khandhar Proposed Reserve Forest (PRF), Barsuan Range, Bonai Forest Division, Odisha, India. It is reported here as a new record from the state of Odisha, India. The present paper provides the detailed description and ecological notes along with photographs.

Keywords: Symplocaceae, Moist deciduous forest, Sundergarh

1. INTRODUCTION

The genus *Symplocos* Jacq. comprises about 250-300 species distributed from South to Southeast Asia, America and Australia (Brand 1901; Nooteboom 1975; Stahl 1995). The most common key characters of the genus are shrub or large evergreen tree, flowers in spike, mostly from upper leaf-axils, petals connate at base, terete staminal filaments and 3-celled endocarp or rarely 1-celled, drupes crowned by the persistent calyx-lobes, rarely smooth, seeds straight or curved etc (Saxena and Brahmam 1995; Fritsch et al., 2008). In Odisha, two species of the genus *Symplocos* (Saxena and Brahmam 1995) are reported (*S. racemosa* & *S. cochinchinensis*). During the exploration works under the project entitled "Community Level Discussion for Biodiversity Management" in Barsuan Range, Bonai Forest Division, Sundargarh, Odisha, authors found an interesting tree species of genus *Symplocos* at Kandhar PRF. Study area mostly enjoys the moist & dry deciduous forest having different types of epiphytes (Kumar and Kumar 2021). Critical morphological analysis and literature survey (Sundaresan et al., 2003; Ulloa et al., 2015; Jagadeesan et al., 2016; Stephan et al., 2017; Stephan et al., 2021a; Stephan et al., 2021b) revealed that the taxon is morphologically distinct with other known species of the genus from Odisha state. On scrutiny, the collected plant specimen has been recognized as a *Symplocos cochinchinensis* var. *laurina* (Retz.) Noot. The associated plants, habitat and photographs are provided for easy identification in field.

2. METHODS

The collected specimen was preserved using standard method (Jain and Rao 1977) and deposited in the Herbarium unit (APRFH), Ambika Prasad Research Foundation, Odisha, India. The morphological characters of *Symplocos cochinchinensis* var. *laurina* were carefully analyzed and then compared with *Symplocos cochinchinensis* and data found in the literature (Saxena and Brahmam 1995; Ulloa et al., 2015; Jagadeesan et al., 2016; Stephan et al., 2017).

3. TAXONOMIC TREATMENT

Symplocos cochinchinensis var. *laurina* (Retzius) Nooteboom, Rev. Symploc. 156. (1975); *Symplocos cochinchinensis* var. *laurina* (Retz.) Raizada, in M. B. Raizada & H. O. Saxena, Fl. Mussoorie 1: 417 (1978); *Symplocos acuminata* (Blume) Miq. in Fl. Ned. Ind. 1(2): 467 (1859).

Material studied:

INDIA, Odisha, Bonai Forest Division, Khandahar, 21° 46' 16" N; 85° 7.0' 38" E, elevation 695 m alt., 9 September 2021; Sanjeet Kumar 61 (APRFH).



Plate 1: Morphological analysis of collected species (Fruits, Flowers & Leaves)



Plate 2: Vegetative parts of collected tree species from Bonai Forest Division, Odisha

Description:

Evergreen trees, up to 15.5 m tall, bark light grey. Leaves simple, alternate, 3-8 cm wide; petiole 5-15 mm, leaf blade ovate-elliptic to obovate-elliptic, base acute to attenuate, apex acute or acuminate, margin serrulate. Bracts persistent, ca. 2 mm, margin glandular. Flowers white, in axillary, 7.5 cm long. Calyx glabrous and lobes semi-orbicular. Corolla glabrous. Fruits are drupe, globose, 4.0- 8.5 mm in diam, apex with persistent calyx lobes. Seeds 1-3 and oblong in shape (Plate 1 & Plate 2).

Flowering-Fruiting:

September –November

Habitat:

Growing along the perennial stream. The most common associated species are *Shorea robusta*, *Dioscorea bulbifera*, *Clerodendrum infortunatum*, *Spermacoce alata*, *Microsorium membranacum* and *Pyrrosia adnascens*.

Distribution:

Indo-Malesia, China, South India, Assam, Meghalaya, Maharashtra, Tamil Nadu, Odisha (Present record).

Note:

The collected species is close to *Symplocos cochinchinensis*. The *S. cochinchinensis* is represented by about two subspecies and about four varieties. Var. *laurina* belongs to subsp. *laurina* (The Flora of China 1996; <http://www.efloras.org>). The collected species is close to the species *S. cochinchinensis* and distinct with bract, leaf and flower. Earlier *S. cochinchinensis* (Lour.) S. Moore was described with syn. *S. spicata* and *Myrtus laurinus* from Odisha state which was not *Symplocos cochinchinensis* var *laurina* (Retz.) Noot. The collected species from Bonai Forest Division is a var. under the subsp. *laurina* which is not reported earlier from the state of Odisha. As per The Plant List, *Symplocos cochinchinensis* var *laurina* (Retz.) Noot. is an accepted name and not the syn. of *S. spicata* and *Myrtus laurinus* and *M. laurinus* is an unresolved name (www.theplantlist.org). As per the POWO (Plant of the world online) of Royal Botanic Garden Kew, *Symplocos cochinchinensis* var *laurina* is a syn. of *S. acuminata* (Blume) Miq. which is also earlier not reported from Odisha state (<http://powo.science.kew.org>). Saxena and Brahmam (1995) reported the flowering period of *S. cochinchinensis* is January to March and Fruiting is April to June (*versus* Flowering & Fruiting; September to November in collected species); Fruits of *S. cochinchinensis* is 4-6 mm diameter (*versus* 7-9 mm diameter in collected species). The Flora of China (1996) described fruit of *S. cochinchinensis* as ampulliform to globose (*versus* globose in collected species); bracts ca. 3 mm (*versus* ca. 2 mm in collected species). Haines described (1922) *S. spicata* leaf up to 228.6 × 76.2 mm (*versus* up to 170 × 80 mm in collected species). Saxena and Brahmam (1995) described the leaf of *S. cochinchinensis* up to 220 × 75 mm (*versus* up to 170 × 80 mm in collected species). The collected species has medicinal values and used in the treatment of eye problems (Banu and Kashyap 2013).

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Ethical approval

The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

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Conflicts of interest:

The authors declare no conflict of interest.

Data and materials availability

All data associated with this study are present in the paper.

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